# Local acceptance and the legal framework

## the Danish wind energy case

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# CHAPTER 7

# LOCAL ACCEPTANCE AND THE LEGAL FRAMEWORK – THE DANISH WIND ENERGY CASE

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## 1. INTRODUCTION[1]

A crucial challenge to the development of wind power as well as other renewable energy installations is how to ensure or at least promote local acceptance. The achievement of political targets on the increased share of renewable energy – and in particular wind energy – is facing serious impediments when it comes to local decision-making on wind energy projects due to local opposition. Local acceptance is in this context used to signify that the focus will be on local attitudes towards wind energy projects as opposed to public attitudes towards wind energy in general.[2] Several empirical studies have through case studies identified the main factors influencing local acceptance of wind energy projects. Among such factors are not only the visual interference, but also factors such as decision-making processes, including trust in decision-makers, as well as ownership of a project.[3] Thus, it must be acknowledged that local acceptance is a complex and multifaceted issue that also calls for a careful consideration and design of public decision-making processes as well as other policy instruments or measures. With a wind energy production covering close to 30 per cent of the total electricity consumption Denmark is a country with a very strong record as regards wind power generation. The political ambition is to reach a 50 per cent wind energy share of electricity consumption by 2020 installing further capacity onshore, offshore and near-shore.[4] However, in particular on-

[1] The work of Birgitte Egelund Olsen is linked to the research project 'EnERgioN – Erzeugung, Speicherung und Vermarktung von Erneuerbaren Energien in der Region Nord', funded by the Innovation Incubator Lüneburg. Parts of this chapter build forward on a contribution to the book "Renewable Energy Law in the EU – Legal Perspectives on Bottom Up Approaches" by Peeters, M. and Schomerus, T. (Eds.), Edward Elgar Publishing (forthcoming). The work of Helle Tegner Anker is linked to the research project 'Wind2050 - Multidisciplinary study on local acceptance and development of wind power projects' funded by the Danish Strategic Research Council (2014-2017).

[2] Wüstenhagen et al use the concept of community acceptance referring to the specific acceptance of siting decisions by local stakeholders. Community acceptance together with market acceptance and socio-political acceptance forms a triangle of social acceptance, R Wüstenhagen, M Wolsink and MJ Bürer, 'Social Acceptance of Renewable Energy Innovation. An Introduction to the Concept' (2007) 35 *Energy Policy* 2683.

[3] Haggett identifies five factors as: 1) visual interference/landscape values, 2) social, political, historical context/place attachment, 3) local-global disjuncture, 4) ownership and 5) decision-making processes, see C Haggett, 'Understanding Public Responses to Offshore Windpower' (2011) 39 *Energy Policy* 503.

[4] According to the 2012 Energy Agreement onshore wind energy capacity should be increased by 1800 MW (net 500 MW), offshore with 1000 MW and near-shore with 500 MW.

shore and near-shore wind power projects are facing increasing local opposition, delaying and in some cases even blocking their implementation. Addressing public participation and local involvement in, eg, planning and environmental assessment procedures, has traditionally been seen as an important part of the legal framework. More recently, specific policy measures aimed at promoting local acceptance has emerged in Denmark as well as in other countries.[5] This includes compensation schemes, community benefit schemes and co-ownership schemes. The design of such measures and the interaction with the legal framework is crucial if the ambitious political targets for wind energy capacity are to be met.

This chapter aims to analyse the role of law in addressing local opposition towards wind energy projects based on the Danish wind energy experiences. The objective is to point at relevant characteristics – and potential pitfalls – of the legal and regulatory framework in addressing the issue of local acceptance. The legal aspects are analysed on the basis of the legal framework as well as relevant court rulings and administrative decisions. Furthermore, general observations stemming from public debate and insights into specific wind energy projects form the basis for our analysis and conclusions.[6] How the legal framework and the specific regulatory measures actually affect local acceptance, however, falls outside the scope of this chapter as it would require in-depth empirical studies drawing on a broader range of social science methods.[7]

The chapter starts out with an analysis of the legal framework regarding planning, environmental assessment and public participation focusing on onshore and offshore turbines. Then, we devote attention to specific policy measures aimed at increasing local acceptance, including the compensation, co-ownership and community benefit schemes that have been introduced in Denmark. In a Danish context it is important to distinguish between onshore, near-shore and offshore wind turbines as different rules may apply.[8] Traditionally, there has been a regulatory divide in the coastline where onshore activities have been subject to local decision-making and land use (or spatial) planning, whereas offshore activities have generally been subject to a more sector-based regulation by different state authorities.[9] Such a regulatory divide may in particular create problems in relation to offshore or near-shore turbines that require land-based installations as part of the project.

[5] In for example Germany, since 2009 there has been a been a specific *Gewerbesteuer* scheme, where the relevant trade tax is distributed so that 70 per cent of the trade tax remains with the municipality where the wind farm is located, whereas the municipality where the operator is based receives only 30 per cent of the trade tax, cf Bundesverbandes WindEnergie, Windenergie in Bürgerhand – Energie aus der Region für die Region (2013) available at www.wind-energie.de.

[6] One of the authors of this chapter – Birgitte Egelund Olsen – has since 1 January 2009 been the Chairman of the Valuation Authority of the Region Midtjylland, see more about the Compensation scheme in section 3.1.

[7] Such empirical studies will be carried out under the research project 'Wind2050. A multidisciplinary study on local acceptance and development of wind power projects' funded by the Danish Strategic Research Council (2014–2017).

[8] Local opposition might also be an issue for offshore projects, see Haggett, 'Understanding Public Responses'. See also M Wolsink, 'Near-Shore Wind Power – Protected Seascapes, Environmentalists' Attitudes, and the Technocratic Planning Perspective' (2010) 27 *Land Use Policy* 195.

[9] HT Anker, V Nellemann and S Sverdrup-Jensen, 'Coastal Zone Management in Denmark: Ways and Means for Further Integration' (2004) 47 *Ocean & Coastal Management* 429; and HT Anker, B Egelund Olsen and A Rønne (eds), *Legal Systems and Wind Energy: A Comparative Perspective* (Kluwer Law International 2009) 97–98

## 2. PLANNING, ENVIRONMENTAL ASSESSMENT AND PUBLIC PARTICIPATION

Planning and environmental assessment procedures are well-known regulatory measures that ensure public participation in decision-making – not only for the purpose of improving the decision-making basis, but also for the purpose of ensuring local legitimacy and acceptance. It has in particular in relation to wind energy projects been put forward that the success depends on the 'degree to which planning regimes stimulate or impede collaborative approaches'.[10] While planning law and planning procedures may differ widely from one country to another, environmental assessment procedures have been subject to legislative initiatives at EU as well as international level. Public participation is a core element in environmental assessment procedures as reflected in both the EIA and SEA Directives[11] as well as in the Aarhus Convention.[12] The implementation of public participation and environmental assessment procedures – and their application in relation to wind energy projects – may however also vary from one country to another.[13] Furthermore, environmental assessment procedures and public participation may often be seen as obstacles from a developer perspective. Thus, there might be tensions around the use of such procedures in general as well as in individual cases. The legal design as well as the actual practices of planning and environmental assessment procedures can be quite important in relation to how well they contribute to reducing conflicts and increasing local acceptance. This may also include issues such as the access to administrative appeals or judicial review – yet such issues will not be analysed in this chapter.

### *2.1. Spatial planning*

An important distinction as regards spatial or physical planning for wind energy development in a Danish context is between the more strategic planning, eg, a positive designation of potential wind energy areas, as opposed to the project planning for individual wind energy projects. Strategic spatial planning is generally well suited for making an overall balancing of different (land use) interests, including landscape characteristics and nature protection as well as the prevalence of wind resources. In particular the latter is important for ensuring effective wind power projects. Strategic planning for potential wind energy areas is – at least from the outset – likely to be less controversial with respect to local acceptance than project planning for individual wind energy projects. Whether strategic planning is also able to reduce local opposition in the subsequent project planning for individual wind energy projects is probably

[10] Wolsink, 'Near-Shore Wind Power'.
[11] Directive 2011/92/EU of the European Parliament and the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment [2012] OJ L26/1 and Directive 2001/42/EC of the European Parliament and the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment [2001] OJ L197/30.
[12] Convention on access to information, public participation in decision-making and access to justice in environmental matters (Aarhus 25 June 1998).
[13] For a comparative study see, eg, HT Anker, BE Olsen and A Rønne, *Legal Systems and Wind Energy. A Comparative Perspective* (Kluwer Law International 2008).

more debatable. Yet, a strategic plan may provide a strong platform for local authorities seeking to justify individual wind energy projects in accordance with the strategic plan – and perhaps to some extent counterbalance local opposition in individual projects.

### *2.1.1. Onshore wind energy projects*

In Denmark planning law and strategic planning has played an important role in the development of wind energy projects onshore. Since, 1994 a specific national planning circular has laid down specific requirements on planning for wind energy projects both at strategic level and at project level.[14] The Circular stipulates that the (strategic) designation as a potential wind energy area is a prerequisite for the adoption of local project plans for individual wind energy projects or for granting a permit to a wind energy project. Thus, the Circular forms the basis for a strategic planning in the form of a positive designation of potential wind energy areas. Most wind energy projects also require the adoption of a local plan (development plan) according to the Danish Planning Act.[15]

Prior to the 2007 local government reform the strategic designation of potential wind energy areas was part of the regional plans adopted by the 13 county councils. The county councils were, however, abolished by the 2007 local government reform, and the designation of potential wind energy areas is now a part of the municipal plans adopted by the now 98 municipalities. This means that the municipalities in general control strategic as well as project planning for onshore wind energy in Denmark. Apparently, the municipalities are facing increasing difficulties with not only the adoption of local project plans for individual wind energy projects, but also with the strategic designation of wind energy areas. It appears that the municipalities – as local authorities – are sensitive towards local opposition.[16] Furthermore, the strategic designation of potential wind energy areas risks being undermined by a project by project approach when it is possible for the municipality to amend the strategic plans on an ad-hoc basis allowing for individual projects that have not been foreseen in the strategic plans.

Thus, the Danish experience is that while strategic planning can be an important element in addressing local opposition, the 'structure' of the planning system and in particular the assignment of competence for strategic planning to higher level authorities is likely to be decisive.[17] It must be noted that Denmark does not have a specific policy that aims to cluster wind energy in large scale areas, rather most wind energy projects are relatively small. This means that there are a relatively high number of small-scale individual wind turbine projects

[14] Now Circular No 9295/2009 on planning and rural zone permit for wind turbines.
[15] Consolidated Act 587/2013 on Planning.
[16] In Denmark, local opposition has put a stop to several wind energy projects that have survived the initial planning phases. Recently, several municipal councils have either withdrawn or significantly reduced their proposed strategic designation of potential wind turbine areas, e.g. the municipalities of Aarhus, Roskilde, Slagelse and Holbaek. This has in some cases coincided with the general local elections in November 2013; see, eg, the news item in the Danish energy newsletter *Nyhedsbladet Dansk Energi* No 11 (2013) 20.
[17] HT Anker, BE Olsen and A Rønne, 'Wind Energy and the Law. A Comparative Analysis' (2009) 27 *Journal of Energy & Natural Resources Law* 145, 163.

which may become a challenge to strategic planning while it at the same time underlines the need for strategic planning.

Another important feature of the Danish national planning circular for wind turbines is the stipulation of a minimum distance requirement to neighbouring dwellings of 4 times the total height of a wind turbine. This means that it is not possible to adopt a plan (strategic or local) or issue a permit for wind energy projects that do not comply with the minimum distance requirement. The distance requirement is specifically aimed at safeguarding neighbour interests.[18] The Circular lays down requirements with the purpose to minimise landscape interference, ie by recommending grouping turbines in an easily comprehensible geometric pattern as well as requiring a specific assessment of cumulative landscape impacts when establishing wind turbines within 28 times the total height from existing or planned turbines. Such measures could be viewed as a type of strategic planning guidelines that are aimed at reducing local conflicts. Yet, there is no doubt that such measures do not in themselves mean that local opposition can be avoided.

### *2.1.2. Offshore and near-shore wind energy projects*

The Danish Planning Act only applies to land areas. There is no similar spatial planning legislation or system for marine areas. Marine spatial planning has only more recently been discussed in Denmark as a response to the newly adopted EU Directive establishing a framework for maritime spatial planning.[19] The EU Directive specifically addresses the achievement of the EU renewable energy targets and consideration of renewable energy production is among the minimum requirements for maritime spatial plans. Furthermore, the EU proposal calls for the early involvement of all relevant stakeholders, including the public concerned.

The current status on planning for offshore wind energy projects in Denmark is based on the 2008 Renewable Energy Act.[20] There are, however, no formal planning requirements in the Act. According to Sec 22 of the Act, the Minister for Climate, Energy and Buildings may designate areas for large-scale offshore wind energy as well as for near-shore wind energy projects. The designation primarily serves the purpose of initiating tender procedures for projects within the designated areas. It is, however, also possible to apply for a permit for projects outside the designated areas. This means that a plan is not a mandatory prerequisite

[18] There are no binding thresholds as regards cast shadow, but it is recommended that the planning should ensure that cast shadow does not exceed 10 hours/year in a guidance note (*Vejledning nr 9296/2009 om planlægning for og landzonetilladelse til opstilling af vindmøller*). Noise standards are laid down in Statutory Order 1284/2011 (*om støj fra vindmøller*) which includes rules also on low frequency noise.

[19] European Parliament and Council Directive 2014/89/EC of 28. August 2012 [2014] OJ L257/135. For a detailed analysis of the legal framework for offshore wind farms, see K Van Hende, *Towards an Integrated Legal Framework for Offshore Wind Farms and Grid Interconnections in the EU Marine Waters* (PhD thesis, Aarhus University 2014).

[20] The 2008 Renewable Energy Act, Act No 1392 of 27 December 2008, has been replaced by Consolidated Act No 1074 of 8 November 2011 on Renewable Energy.

for offshore wind energy projects in Denmark. Nevertheless, the designation of off- and near-shore wind energy areas must be categorised as a kind of plan and it is likely also to determine the location of offshore wind turbines in the future.

As part of the 2012 Danish Energy Agreement it was decided to increase the share of near-shore wind energy with 500 MW.[21] This led to a process headed by the Danish Energy Agency where 15 potential sites were selected for examination. The selection had been based on a number of criteria, including a minimum distance to the coast ranging from 0 to 4 km depending upon the 'sensitivity' of the coastline. For turbines taller than 150 m more strict distance requirements should be applied. Of the 15 sites, the eight most 'cost-efficient' sites were selected for consultation with the municipalities involved. On the basis of this 'consultation' six near-shore sites were selected for tender procedures.[22] However, since there is no formal planning requirement in the Renewable Energy Act there are no formal procedural requirements apart from those associated with the environmental assessment procedures.

From a legal point of view this creates some uncertainty as the practice of the relevant authorities may vary from one case to another. So, despite the fact that public consultation has been carried out as part of the strategic environmental assessment when 'designating' offshore wind energy areas – and more detailed EIA's of individual projects are foreseen – the lack of a formal offshore planning process appears problematic from a legal point of view. While the existing practices of the Danish Energy Agency provides a strategic offshore planning through the designation of potential wind farm areas, there are no requirements as regards project planning offshore. The establishment of offshore (and near-shore) wind farms is subject to a permit process and an associated environmental assessment procedure governed by the Danish Energy Agency. This will in accordance with the EIA Directive (and the Aarhus Convention) involve a public consultation and participation process, see below.

### *2.2. Environmental assessment procedures*

Environmental assessment procedures are generally aimed at improving the decision-making basis, eg by ensuring public participation, and may in different ways influence local acceptance. Generally, a distinction is drawn between strategic environmental assessment (SEA) linked to the adoption of plans/programmes and environmental impact assessment (EIA) linked to the adoption of specific projects. Such requirements are stipulated in the EU SEA and EIA Directives[23] as well as in the Espoo Convention[24] and the Aarhus Convention.[25] An-

[21] The Danish Energy Agreement, Accelerating green energy towards 2020, March 2012.
[22] The six near-shore sites are located more than 4 km from the coast.
[23] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment [2012] OJ L26/1 (EIA Directive) does not include wind power installations as a mandatory EIA project in Annex I of the Directive, whereas wind power installations are included in Annex II requiring an EIA if the project on the basis of either an individual screening or thresholds is likely to have a significant effect on the environment. Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment [2001] OJ L197/30 (SEA Directive) requires an environmental assessment of plans and pro-

other important environmental assessment requirement follows from Article 6(3) in the Habitats Directive applying to both plans and projects that may have a significant effect on a Natura 2000-site[26] – these rules will not be elaborated upon in this chapter.

### *2.2.1. Strategic environmental assessment (SEA)*

In Denmark a strategic environmental assessment must be carried out for municipal plans, including the strategic designation of wind turbine areas, as well as for local plans in most cases. The EU SEA Directive has been implemented into a separate Act on Environmental Assessment of Plans and Programmes[27] that applies across different sectors and pieces of legislation. This means that the Act applies to plans and programmes adopted according to the Planning Act as well as the Renewable Energy Act and any other piece of legislation. Furthermore, the SEA requirements apply not only to plans and programmes that are formally required by law, but also to (informal) plans and programmes that are drawn up by authorities with the purpose of serving as a basis for administration. This potentially wide scope of the Danish SEA rules were incorporated into the Act as the result of an opening statement from the EU Commission noting that the term of 'administrative provisions' in the SEA Directive was wider than just formal provisions in legislation.[28] The designation of potential wind energy areas both onshore and offshore will thus normally be subject to SEA procedures. As most onshore individual wind energy projects require the adoption of a local (development) plan, SEA procedures also apply for the individual wind energy projects unless the project is in accordance with the strategic plan and the herewith associated strategic environmental assessment. Thus, the distinction between SEA and EIA is not quite clear in Danish legislation and this may cause some confusion in practice – also among the public.[29]

In general, however, there appears to be relatively few controversies associated with the SEA procedure as such. Yet, there has been a few administrative appeal cases in the Nature and Environment Appeals Board challenging SEA of the strategic designation of potential wind

grammes that provide the framework for subsequent project permits, including plans for wind power installations.

[24] The Espoo Convention addresses EIA and SEA in a transboundary context, see Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991). The Convention stipulates mandatory EIA for Annex I projects, including (since 2004) 'major installations for the harnessing of wind power for energy production (wind farms)'. Furthermore, an SEA Protocol on strategic environmental assessment (entered into force in 2010) sets out a requirement for SEA of certain plans and programmes that are likely to have a significant effect on the environment.

[25] The Aarhus Convention indirectly address EIA through requirements of public participation in permit procedures regarding Annex I-projects and other projects (as determined in national law) that may have a significant effect on the environment (Art 6). Public participation as regards plans and programmes are formulated as less strict obligations to make 'appropriate practical and/or other provisions' (Art 7).

[26] Natura 2000-sites are areas designated under the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora [1992] OJ L206/7 (Habitats Directive) and Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds [1979] OJ L103/1 (Birds Directive).

[27] Consolidated Act No 939/2013 (*om miljøvurdering af planer og programmer*).

[28] Opening statement European Commission 2007/2481, SG-Greffe (2008)D/200845.

[29] The Nature and Environment Appeals Board has accepted that an SEA and an EIA can be carried out simultaneously as long as both sets of rules are complied with, see, eg, MAD2008.435.

turbine areas. The disputes have related to the level of detail in strategic environmental assessment – and the conclusions of the Appeals Board appear to be that it very much depends upon the level of detail in the plans in question.[30] Appeals regarding SEA of offshore designations to the Energy Appeals Board have not yet been seen, possibly due to the lack of formal planning procedures under the Renewable Energy Act.

### *2.2.2. Environmental impact assessment (EIA)*

The Danish EIA rules are somewhat more complicated with one system for onshore projects and another system (or in fact several systems) for offshore projects. For onshore projects the Danish EIA rules are incorporated into the Planning Act[31] and the municipal planning system. This means that in most cases the municipality will be the relevant authority. For certain large scale projects, including wind turbines above 150 m the Danish Nature Agency is, however, the relevant authority. Almost all onshore wind energy projects are subject to a mandatory EIA as the Annex I threshold is turbines above 80 metres or more than three turbines. Smaller projects will be subject to a screening, cf. Annex II of the Statutory Order. Formally the municipality is responsible for carrying out an EIA based on the information supplied by the developer. This means that it is not always possible to distinguish clearly between the information provided (by the developer) and the assessment carried out by the authority, which in some cases might also provide additional information, eg on alternatives. This may give rise to some difficulties in separating views of the developer from views of the authority. From the point of view of promoting local acceptance this approach might be controversial as there is a risk that the authority is not regarded as neutral, but rather as an active proponent of the wind energy project.

For offshore wind energy projects the EIA system is rather different as the rules are incorporated into the relevant sector legislation, ie, the Renewable Energy Act for wind energy projects.[32] There is – as in the EIA Directive – no mandatory EIA requirement for offshore wind energy projects. A screening will be carried out for each project to determine whether the project may significantly affect the environment. It is normally the developer that shall produce an environmental impact statement, but in some cases the Danish transmission system operator, Energinet.dk, will carry out the preliminary investigations and also the associated EIA. This will be the case for the six near-shore projects. Thus, there might also in relation to at least near-shore projects be similar difficulties in separating information provid-

[30] The Nature and Environment Appeals Board in one of the cases rejected claims that more a more detailed assessment was required at the strategic planning level (MAD2011.1761, Decision of 7 July, j.nr. NMK-41-00023, available at www.nmkn.dk), whereas the Appeals Board in a subsequent case on the designation of four potential wind turbine areas found that the assessment of the effects on nature and cultural heritage as regards one of the proposed areas was insufficient (MAD2012.3200, Decision of 16 November, j.nr. NMK-41-00063, available at www.nmkn.dk).

[31] Consolidated Act No 587/2013 and Statutory Order 1654/2013 on EIA (replacing the former Statutory Order 1015/2010 with effect from 1 January 2014).

[32] Statutory Order 68/2012 on EIA of offshore electricity production installations.

ed by the developer from the assessment carried out by the authorities – and consequently the views of the public authorities (or companies) and the private developers.

### *2.3. Public participation*

Both planning and environmental assessment procedures are characterised by a strong element of public participation – most notably reflected in the requirements of the Aarhus Convention as well as in the EIA and SEA Directives.[33] In general, early involvement is considered important to increase local acceptance.[34] Yet, exactly how a potential wind energy project is presented to the public and how participation is carried out is likely to be decisive in each individual case.

In Denmark public participation procedures differ from onshore to offshore projects. Onshore projects are as mentioned above governed by the Danish Planning Act and the municipal planning procedures. This includes an early involvement of the general public in the form of a pre-consultation phase prior to the drawing up of a municipal plan or an environmental assessment as well as a regular consultation period of minimum eight weeks before the adoption of the final plan. In the pre-consultation phase a public call shall be made by the authorities for suggestions based on a short announcement of the proposed plan or development. Local (development) plans are generally not subject to this type of pre-consultation. Yet, individual wind energy projects will nevertheless be subject to a pre-consultation phase before an EIA is prepared. While such an early involvement at least in theory might increase local acceptance, it appears that the municipalities are facing increasing problems with local opposition regarding wind energy projects despite fairly extensive participation procedures. This underlines the multifaceted character of local acceptance and suggests that even fairly extensive public participation procedures may not in themselves reduce local opposition. In this context it might also be noted that in particular local authorities, ie the municipalities, are likely to be more sensitive to responding to local opposition than higher level authorities as pointed out above.

For offshore wind energy projects the only formal public participation procedures are linked to the SEA and EIA procedures. This does not include a pre-consultation phase, but only a consultation after the environmental assessment has been prepared, ie complying with the minimum requirements of the directives. The consultation is carried out by the Danish Energy Agency according to the EIA procedures laid down in a Statutory Order (68/2012). The con-

[33] Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC [2003] OJ L156/17 was adopted with the purpose of implementing primarily the public participation requirements of the Aarhus Convention.

[34] Eg N Hall, P Ashworth and P Devine-Wright, 'Social Acceptance of Wind Farms: Analysis of Four Common Themes across Australian Case Studies' (2013) 58 *Energy Policy* 200; M Wolsink, 'Wind Power Implementation: The Nature of Public Attitudes: Equity and Fairness Instead of "Backyard Motives"' (2007) 11 *Renewable and Sustainable Energy Reviews* 1188; and J Loring, 'Wind Energy Planning in England, Wales and Denmark: Factors Influencing Project Success' (2007) 35 *Energy Policy* 2648.

sultation will be announced in relevant newspapers and on the website of the Energy Agency. A minimum consultation period of eight weeks is stipulated. Although such a system might not appear as accessible from a local citizen perspective it appears that at least the consultation on potential near-shore wind turbine areas did attract comments from local citizens and organisations.[35] Yet, it is not clear to what extent such comments actually influenced the final selection of near-shore wind areas. As mentioned above out of the initial 15 sites, the eight most 'cost-efficient' sites were identified and six of these were then selected after a consultation with the relevant municipalities. For each of the six near-shore areas public participation procedures have now been initiated as part of the EIA procedure. The EIA procedure for the near-shore projects will be carried out in a co-operation between the Danish Energy Agency and the Nature Agency covering both the turbines and ancillary installations on land. As a consequence it has been decided to apply the more detailed EIA (and public participation) procedures of the Planning Act and a pre-consultation phase has now been initiated. Yet, the formal rules underpinning the 'transfer' of procedural requirements outside the scope of the Planning Act do not appear to be in place.

## 3. SPECIFIC POLICY MEASURES AIMED AT ENHANCING LOCAL ACCEPTANCE

Despite the existence of a wide range of measures which aim, directly or indirectly, to protect the neighbours to wind energy projects from their adverse effects, the fact is that in many countries wind energy projects are increasingly confronted with local opposition which delays and sometimes even wholly prevents their implementation. In a number of countries, initiatives have evolved for local ownership, financial participation in projects or specific local benefits. This has also been the case in Denmark. To ensure more widespread acceptance of wind turbines on land and in near-shore areas, the Danish Renewable Energy Act has introduced specific measures to enhance local support for the establishment of new wind farms or the replacement of older, less efficient ones.[36]

The Act, which entered into force on 1 January 2009, introduces three regulatory measures to promote public acceptance. The first is a compensation scheme, which gives property owners a right to full compensation for the loss of value of their real property due to the siting of wind turbines in their vicinity. The second measure – the co-ownership scheme – imposes an obligation on wind energy developers to offer a minimum of 20 per cent ownership of projects to local citizens. The last measure is a community benefit scheme, which provides funding for

[35] All comments received during the consultation are available at the website of the Danish Energy Agency, see http://www.ens.dk/undergrund-forsyning/vedvarende-energi/vindkraft-vindmoller/havvindmoller/planlaegning-fremtidens.

[36] The first Renewable Energy Act, Act No 1392 of 27 December 2008, has been replaced by Consolidated Act No 1074 of 8 November 2011 on Renewable Energy, with later amendments. An unofficial English translation of parts of the original Act can be found on the website of the Danish Energy Agency, http://www.ens.dk/sites/ens.dk/files/supply/renewable-energy/Renewable%20Energy%20Act%20_VE%20loven.pdf.

projects that enhance local scenic and recreational values. It thus promotes local nature restoration projects or the installation of renewable energy sources in public buildings.[37] The funding derives from the PSO-tariff, which is imposed upon the electricity distributors and paid by every electricity consumer.[38]

The measures all have the same overall objective, which is to promote the development of onshore and near-shore wind energy, but otherwise they represent very different approaches. One approach encourages the financial involvement of local citizens, whereas the others redress the economic injustice which occurs when the common good is served by inflicting some form of a renewable energy facility on a neighbourhood. The compensation scheme implies a direct and individual compensation, while the community benefit scheme entails a more indirect and subsequent compensation of the local community as such.

### *3.1. The compensation scheme*

The aim of the compensation scheme for loss of value to real property is to gain acceptance of wind energy projects from owners of affected dwellings close to a wind turbine site. The reasoning behind the measure is that the neighbours to a wind turbine will supposedly be more ready to accept it if they are compensated for the loss of value of their property. From a wider perspective the reasoning is that economic justice will generate more general acceptance of wind energy projects in local communities. However, there is a very delicate balance between compensation and 'bribery', and local opposition to a specific project may be intensified if compensation is perceived to be bribery.

The Danish scheme takes the view that wind turbines in the vicinity of a property will inflict a loss on the property in question. However, in the USA, recent research has demonstrated that operating wind turbines have not had any measureable impact on home sales prices.[39] There have not been conducted any similar studies in a Danish context, neither before nor after the enactment of the compensation scheme.

[37] See further on the measures to enhance local in the Danish Renewable Energy Act, BE Olsen, 'Wind Energy and Local Acceptance: How to get Beyond the NIMBY Effect' (2010) 19 *European Energy and Environmental Law Review* 239; and BE Olsen and HT Anker, 'Erstatningsordningen for naboer til vindmøller: Erfaringer og fremtidsperspektiver' (2011) 93 *Juristen* 223. See also BE Olsen, 'Regulatory Financial Obligations for Promoting Local Acceptance of Renewable Energy' in M Peeters and T Schomerus (eds), *Renewable Energy Law in the EU: Legal Perspectives on Bottom Up Approaches* (Edward Elgar 2014).

[38] The PSO tariff covers the Danish TSO's costs relating to public service obligations as laid down in the Danish Electricity Supply Act, see Consolidated Act No 1329 of 25 November 2013. The settlement basis for the tariff is the gross electricity consumption.

[39] B Hoen et al, 'A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States' (Ernest Orlando Lawrence Berkeley National Laboratory, August 2013). In the study, data from more than 50,000 home sales among 27 counties in nine US states were collected. The homes were within 10 miles of 67 different wind facilities, and 1198 sales were within 1 mile of a turbine. Regardless of model specification, the study showed no statistical evidence that home values near turbines were affected in the post-construction or post-announcement/pre-construction periods.

The compensation scheme obliges wind energy developers to fully compensate the financial loss of any owner of a property who faces more than a 1 per cent decrease of the property value because of the establishment of new wind turbines.[40] The scheme covers all wind turbines except those less than 25 meters in height and offshore wind turbines established following a tender procedure and located in areas for large offshore turbines designated by the Minister.[41] Near-shore wind turbines were, however, included in the scheme in 2013. The scheme has not been applied to any near-shore projects yet.

According to the Renewable Energy Act, owners of dwellings who claim that the erection of a wind turbine will cause a loss of property value must submit claims for compensation to the authorities within 8 weeks of a public meeting held by the wind developer.[42] There is no fee for submitting such a claim. However, owners of dwellings located further than six-times the total height of a planned wind turbine must pay a small fee for the cost of processing a claim for compensation. This fee will be returned if payment for loss of value is granted or agreed.[43]

According to the Act, in principle the amount of the loss of value is determined by agreement between the developer and the owner of the property. If there is no agreement, the decision on the loss of value is referred to the Valuation Authority, which has been established pursuant to the Act to deal with neighbours' claims for compensation.[44] In practice, the decisions are made by the Valuation Authority. So far, very few claims have been settled voluntarily by agreement between wind developers and property owners.

Originally, a major concern of wind developers was the expected increase of the costs of wind development. Prior to the enactment of the scheme, the wind industry estimated that the costs of a wind project would be increased by up to 16 per cent, and a consultancy report commissioned by the Danish Energy Agency predicted estimated losses of value of €80,600 or more per property.[45] However, the level of compensation has been significantly lower than predicted. During the period 2010–2012, the average level of compensation for properties where payment for loss of value was granted was quite consistent, corresponding to approximately €13,500.

Nevertheless, the compensation scheme is still questionable from a local acceptance perspective. First, wind turbines are treated differently from all other large or intrusive infrastructure

[40] Renewable Energy Act, s 6(1) and (3). If the owner of a dwelling has contributed to the loss of value of their property, compensation may be reduced or not payable at all; see Renewable Energy Act, s 6(1). This is the case if, for example, the owner of the dwelling is also the owner of the land on which the windmill is constructed.
[41] Renewable Energy Act, s 6(3). In contrast to the co-ownership scheme, see below in section 3.2., it also covers turbine testing.
[42] Owners of dwellings within a distance of six-times the total height of a planned wind turbine must be given individual notice by the developer. Otherwise, the public meeting must be announced in local newspapers; see Renewable Energy Act, s 9(2).
[43] Renewable Energy Act, s 9(5). The fee is approximately €535.
[44] There is one Valuation Authority per region. Each Valuation Authority consists of a chairperson who satisfies the conditions for appointment as a judge and an expert in valuing real property, in practice a real estate agent; see the Renewable Energy Act, s 7(3).
[45] Orbicon, 'Pilotprojekt til vurdering af muligt værditab for naboer til vindmøller' (Danish Energy Agency, 2008) 20.

projects such as highways, biogas installations and landfill sites. These only give rise to compensation if the activity results in an unreasonable interference which exceeds the 'tolerance limit' (*tålegrænsen*) under nuisance law. This in itself seems to indicate that wind turbines cause a great deal of disturbance even if the public law assessments and the distance requirements for the construction of wind turbines are adhered to, see above section 2.1.1. The scheme thus emphasises the negative local impacts of wind projects and does not focus on the overall societal benefits of the carbon free energy source.

Second, the design of the scheme is not transparent and it gives rise to great difficulties or confused expectations. Experience shows that affected property owners have difficulty in comprehending that it is not the nuisance of the wind turbines as such that is compensated; it is the impact of the wind turbines on property values that is compensated. Furthermore, a neighbour to a wind turbine who does not receive the compensation anticipated will feel being treated unfairly, and may be dissatisfied not only with the decision of the Valuation Authority, the wind farm project and the wind developer, but also with the local authorities and perhaps even with other neighbours. These reactions will not increase local acceptance of wind projects, or lead to greater acceptance of wind energy or renewable energy projects in general, and the disappointment may even lead to legal proceedings.

So far, the case law has not contributed to the transparency of the scheme. With the latest cases rather the opposite. As per January 2014, only nine decisions of the close to 800 decisions of the valuation authorities have been reviewed by the District Courts.[46] Two of the cases have been appealed and assessed by the High Court.[47]

In most of the cases the courts have upheld the decisions and the level of compensation given. However, in four cases the District Courts raised the compensation sum significantly.[48] In two cases, the courts found that the actual nuisance was greater than expected and they decided to increase the level of compensation by approximately 150 per cent. In the other two cases, the court decided to raise the compensation even though the actual impact of the turbines was not greater than the estimated impact. In the first case the compensation was raised by 50 per cent. The members of the Court had inspected the property themselves after the erection of the wind park, and based their decision on their own impression and the opinion of an independent surveyor and a real estate agent representing the neighbour. The decision of the District Court was upheld on appeal to the High Court. In the latest case, the District Court raised the compensation sum from €20,000 in the decision of the Valuation Authority to €266,667. The members of the District Court held that the Valuation Authority had not suffi-

[46] Case No BS 7-368/2010 of 9 March 2012 (District Court Holstebro); Case No BS 7-351/2010 of 9 March 2012 (District Court Holstebro); Case No BS 7-350/2010 of 9 March 2012 (District Court Holstebro); Case No BS 6-242/2011 of 2 April 2012 (District Court Herning); Case No BS 7-1006/2011 of 13 February 2013 (District Court Holstebro); Case No BS 7-465/2012 of 18 September 2013 (District Court Holbæk); Case No BS 7-466/2012 of 18 September 2013 (District Court Holbæk); Case No BS 7-467/2012 of 18 September 2013 (District Court Holbæk) and Case No BS 5-1590/2011 (District Court Randers).

[47] Case of Appeal VL B-0797-12 of 10 September 2013 (High Court West); and Case of Appeal VL B-0798-12 of 10 September 2013 (High Court West).

[48] Case No BS 7-368/2010 of 9 March 2012 (District Court Holstebro); Case No BS 7-351/2010 of 9 March 2012 (District Court Holstebro); and Case No BS 6-242/2011 of 2 April 2012 (District Court Herning).

ciently considered the characteristics of the property. The decision was furthermore based on the opinion of an independent surveyor and a real estate agent representing the neighbour, and the fact that the real estate tax had been reduced by the tax authorities by €200,000 after the erection of the wind farm, which indicated that the wind farm project had caused a significant loss of property value.

The judgments have given rise to a debate about the grounds on which a court can overturn the decision of a Valuation Authority, including whether the opinion of an independent surveyor can outweigh the opinion of an expert member of the Valuation Authority who is also a real estate agent. Based on the existing case law, there is also a debate about whether the courts sufficiently recognize that the assessments of valuation authorities are, by law, based on estimates and that by their nature such decisions will be less accurate than decisions based on assessments made after wind turbines have been erected. In the most recent case, where the level of compensation was raised from €20,000 to €266,667 another problem was revealed. Under the co-ownership scheme the wind project developer had offered the required 20 per cent of the shares in the project to the local citizens and additional shares had been sold to other investors, however all prices had been calculated on the basis of the costs inter alia determined in the decision by the Valuation Authority on compensation for loss of property value and not the subsequent decision in court. The wind energy developer alone will thus be responsible for the down payment of the raised compensation sum.

### *3.2. The co-ownership scheme*

To further promote the local support for wind energy projects, the Danish Renewable Energy Act imposes an obligation on all new wind energy developers to offer a minimum of 20 per cent ownership of each project to local citizens.[49] Developers thus invite members of the local community to participate financially in the project. It is assumed that financial involvement through local ownership can have a positive effect on local attitudes to wind farms. The argument is based on the assumption that a shareholder will focus more on the financial benefits of a wind turbine than on its negative local effects. Local ownership may also promote local dialogue with different interest groups and generate wider understanding of the chosen location and design of the wind energy project. Experience of Danish wind energy projects has shown that there are often more complaints when external investors or large energy companies install wind turbines than when members of the local community do so.[50]

The co-ownership scheme covers all wind turbines that are at least 25 meters in height, including series 0 wind turbines which are the first, small production series of a new type of wind turbine.[51] Offshore wind turbines, which are located more than 16 km from the shore or

[49] Renewable Energy Act, s 13(1).
[50] P Christensen and H Lund, 'Conflicting Views of Sustainability: The Case of Wind Power and Nature Conservation in Denmark' (1998) 8 *European Environment* 1.
[51] New non-series-produced prototype wind turbines and household turbines are outside the scope of the scheme; see Renewable Energy Act, s 13(2).

which are established following a tender procedure and are located in areas designated for large offshore turbines by the Minister for Climate, Energy and Building, are excluded from the scheme. This means that near-shore turbines are subject to the scheme.

The option to buy wind turbine shares is exercised by a tender procedure conducted by the developer in accordance with the detailed framework laid down in the Renewable Energy Act. The shares are only offered to local citizens. The tender procedure must be conducted in the period following project approval and prior to grid connection. The tender is open to citizens who are permanently resident in the municipality where the wind farm is located or, in case of near-shore wind parks, resident in municipalities that have a shoreline within 16 km of the nearest wind turbine. Citizens who live within 4.5 km of the installation site have preferential rights to purchase a maximum of 50 shares.[52] If not all the shares are taken up by residents in the vicinity of the turbine, they are offered to citizens who are permanently resident in the relevant municipality or municipalities.[53]

In order for potential shareholders to have an adequate basis for deciding whether to exercise the co-ownership option, the wind turbine developer must prepare information on the nature and financial conditions of the project or a prospectus in accordance with the specific requirements of the Renewable Energy Act.[54] The sales material must be approved by the competent authority, the Danish TSO, Energinet.dk, as a condition for the wind turbine developer obtaining subsidies for renewable energy generation, including the feed-in premium.[55] The wind turbine developer must explain the sales material at public meetings which must be convened with a reasonable period of notice and announced in local newspapers. Following the public meeting, the shares must be offered for sale for a period of at least 8 weeks.

To promote local ownership, an additional incentive has been introduced specifically for near-shore projects.[56] Developers who can document that at least 30 per cent of a project is locally owned (by enterprises and by citizens) will receive an extra price supplement (DKK 0.01/kWh) during the subsidy period.[57] In calculating the 30 per cent local ownership, developers can include both the shares sold to local citizens (the mandatory co-ownership scheme) and shares otherwise acquired by local citizens or local enterprises. In order to ensure broad ownership, no enterprise or individual may account for more than 5 per cent of the 30 per cent. Companies in the same corporate group count as a single enterprise. Evidence of the 30

[52] Renewable Energy Act, s 15(1).
[53] In the event of an oversubscription for shares, the allocation is made by a draw carried out by Energinet.dk; see Renewable Energy Act, s 16(2).
[54] Renewable Energy Act, s 14. The Act also refers to the Danish implementation of the Directive 2010/73/EU of the European Parliament and of the Council of 24 November 2010 amending Directives 2003/71/EC on the prospectus to be published when securities are offered to the public or admitted to trading and 2004/109/EC on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market [2010] OJ L327/1 (Prospectus Directive).
[55] Renewable Energy Act, s 13(4).
[56] Renewable Energy Act, s 37a.
[57] This means that a project with at least 30% local ownership can make a lower bid in the public tender. In the Danish Energy Agreement, it has been decided to put out to tender 450 MW of near-shore wind generating capacity before 2020; see The Danish Energy Agreement of 22 March 2012. Another 50 MW has been earmarked for testing turbines.

per cent local ownership must be given once a year in order to retain the extra price supplement.

In general, the co-ownership scheme is not highly valued by wind energy developers. From their perspective it is a bothersome process and it diminishes their profit performance. Nevertheless, the aim of promoting public acceptance is recognised and the scheme has become more widely accepted. The aim of the co-ownership scheme is to involve the local public in projects as co-owners, and it seems that the scheme has stimulated the local citizens' engagement in a number of projects.[58] Of course, one obvious explanation is that wind energy projects are generally good business. Wind energy investments can be very profitable, and experience shows that there is often less opposition when a large number of locals take advantage of the co-ownership option.[59] However, from a local community perspective the scheme has not been a success in all cases.[60]

In some wind energy projects very few shares have been sold, usually because the local community has been very strongly opposed to the specific project. In other cases, the co-ownership option has attracted large investments from a few big investors. By an amendment to the Act, it has been ensured that no investor with a preferential right to buy shares (because they live within 4.5 km from the wind turbine site) may buy more than 50 shares. Another problem has been 'wind energy nomads', meaning investors who buy up neighbouring properties to become neighbours and thus eligible to take part in the co-ownership scheme. However, they terminate their residence when their aim is accomplished. The current framework also contains an in-built conflict of interest for developers since shares that are not sold return to the developer, which weakens the incentive for the developers to sell the shares.

### *3.3. Community benefit scheme*

Similar to the other schemes, it is also the aim of the community benefit scheme to promote local acceptance of the installation of new wind turbines by granting subsidies to local initiatives such as the enhancement of local scenic and recreational values. The reasoning behind the measure is that neighbours to a wind turbine will be more accepting of it if they are compensated for the degradation of their surroundings caused by the turbine.

[58] The Danish Energy Agency's report of 28 October 2011, assessing the first 15 wind energy projects under the co-ownership scheme, showed that in 8 out of the 15 projects all wind turbine shares in the schemes had been sold. The number of shareholders in each project ranged from 5 to 60, with an average of 22 (http://www.ft.dk/samling/20111/almdel/keb/bilag/68/1040227.pdf). In many cases the interest in investing in wind turbine shares has grown significantly since the first projects; see, eg, the news item by AN Bang, 'Naboer investerer i vindmøller i baghaven' ['Neighbours invest in wind turbines in their own backyards'] *Berlingske Business* (16 November 2013).

[59] This can be illustrated by the Nørhede-Hjortmose project, which entails the erection of 22 large wind turbines by a local group of owners. 44,000 shares were offered for sale but more than twice as many could have been sold; see Bang, 'Naboer investerer i vindmøller i baghaven'.

[60] See the *travaux préparatoires*, Comments to the Proposal for an Amendment of the Renewable Energy Act, L 135 (2013).

The scheme is accessible for municipalities that have completed wind energy projects, but subsidies may also be granted to initiatives of local groups provided that the activities are of a more general local public interest.[61] It has to be new activities that have not been launched yet. The subsidies are payable when the wind turbine in question is connected to the grid. However, it is also possible prior to the instalment of the turbine, to make reservations for the funding of activities under the scheme. The subsidy corresponds to 0.05 cent per kWh for 22,000 peak-load hours for each wind turbine. Consequently, one turbine of 3 MW entails an amount of approximately €36,000 under the scheme.

At first hand, the application process seems a bit bureaucratic. Only a municipal council may apply for a subsidy. Thus, the municipal council forwards an application from the municipality or a local group in the municipality to Energinet.dk – the Danish TSO – for a commitment for a subsidy. The application for a subsidy may be submitted in connection with the application for approval to install a wind turbine pursuant to the Planning Act, or at a later stage. Based on the application, Energinet.dk may give a commitment for a subsidy for expenses paid by the municipal council. The subsidy is confined to two types of initiatives, that is:

*'construction work to enhance scenic or recreational values in the municipality, and cultural and information activities in local associations etc, in order to promote acceptance of the use of renewable energy sources in the municipality'.*

These requirements could be interpreted strictly, not allowing many initiatives to be funded. However, a study of the projects that have been accepted so far clearly proves that this is not the case.[62] Energinet.dk has been rather open towards the support of various projects. Examples of projects that have received a subsidy are bicycle paths, nature restoration projects, renovation of sporting facilities, instalment of renewables (i.a. solar panels or geothermal energy) in public buildings etc. Due to an uncertainty about the scope of application of the community benefit scheme – and probably also a certain lack of information about this funding possibility, especially among the local citizens – the scheme came off to a very slow start. However, it has recently become more widely known and used, and in several local papers, the community benefit scheme has been identified as an important gain of the local wind energy projects. In the municipality that has initiated the largest number of wind energy developments, Ringkøbing-Skjern, approximately €3.9 million have been reserved for future initiatives under the scheme. However, so far only about €375,000 have been allocated to activities under the scheme.

Despite the current lack of success, the community benefit scheme may in time lead to an increased local acceptance of wind energy projects, although it will probably never have any significant influence on the public opinion in the initial phases of planning. Nevertheless, the community benefit scheme has the potential to increase the level of acceptance when the wind turbines have been installed as it may support local initiatives and development provided that

[61] Renewable Energy Act, s. 18.
[62] See (in Danish) the homepage of Energinet.dk, cf www.energinet.dk/DA/El/Vindmoeller/For-kommuner/Sider/default.aspx.

the subsidies under the scheme are earmarked for the affected community and not municipal projects more broadly.

## 4. CONCLUDING REMARKS

As it appears from the analysis in this chapter Denmark has a fairly detailed legal and regulatory framework aimed at addressing issues of local acceptance in different ways. This includes not only the specific policy measures analysed in section 3, but also the general legal framework as regards planning, EIA/SEA and public participation with some variations as regards onshore, offshore and near-shore wind energy development. Nevertheless, there appears to be an increasing local opposition towards wind energy projects in Denmark and in particular local authorities show increasing reluctance as regards wind energy – in some cases even withdrawing from proposed plans.

In the analysis we have attempted to identify important elements in the legal and regulatory framework that may in it-self influence local acceptance. While the legal design can provide possible explanations it must be kept in mind that local practices eg regarding planning and public participation are likely to be even more important. Thus there is a need for better and more open decisions that take into account the diversity of the stakeholders involved or affected by proposed renewable energy projects. If local concerns are brushed aside or not sufficiently taken into consideration, there will be a risk that opposition and conflicts between the stakeholders involved will intensify, and that the general support for renewable energy projects will fade immensely. In this chapter we have, however, focused on important elements in the legal and regulatory framework on the basis of the Danish experiences.

As regards spatial planning we point at the need to distinguish between strategic planning, eg in the form of designating potential wind turbine areas, and project planning. It appears that strategic planning has been an important element in the development of onshore wind energy in Denmark in the form of positive designation of potential wind turbine areas that may provide a firm standpoint in subsequent planning for individual projects. However, after the local government reform the local authorities (municipalities) are now responsible for both strategic as well as project planning – and the local councils appear to be much more sensitive towards local opposition. Thus both the structure of the planning system and the level of authority may play an important role in relation to addressing local acceptance. Furthermore, the way planning and environmental assessment procedures are integrated may play out differently and also affect local acceptance. In Denmark the legal framework as regards EIA and SEA has been criticised for a lack of logic and for being too complicated. In particular, there is no clear distinction between SEA and EIA and more importantly for EIA's between the information provided (by the developer) and the assessment (by the authorities) of that information. This is in particular the case as regards onshore projects where it may be difficult to separate the views of the authority from the views of the developer, which means that the (local) authority may be perceived as a promoter of the project rather than as a more neutral public decision-

maker. A similar situation may occur as regards near-shore wind energy projects when the EIA is carried out by the Danish TSO, Energinet.dk.[63] Public participation procedures are likely to affect the way local citizens react to wind energy projects. In Denmark fairly extensive public participation requirements, including early 'pre-consultation', are linked to planning and EIA procedures for onshore projects, whereas offshore projects are subject to less extensive – and less formalised – public participation procedures mainly linked to SEA and EIA procedures. However, it appears that the onshore procedures, including a pre-consultation phase, will be used also for near-shore projects despite a lack of formal requirements. This may create some confusion both among the public and the authorities. Yet, it could also be argued that public participation practices are likely to be more important in relation to local acceptance than the formal rules and procedures.

Despite possible adjustments of planning procedures, EIA/SEA and public participation requirements it must be kept in mind that even a well-planned project and extensive public participation is no guarantee for either the acceptance or successful implementation of renewable energy projects. Thus, there might be a need for additional instruments to address local acceptance.

In Denmark, there has been a distinct need to implement further incentives to achieve the planned development in wind energy capacity. The different schemes of the Danish Renewable Energy Act have been in operation for more than four years allowing some conclusions to be drawn concerning the effectiveness of the schemes. From a legal perspective it appears that in particular the compensation scheme is more complex than anticipated. While there has been some minor adjustments of the legal framework the basic construction with a public regulation of compensation from developers to neighbours appears problematic. This is clearly illustrated in the recent court cases where the courts appear to apply different criteria for determining the level of compensation. This may undermine the compensation scheme and it is quite unlikely that the uncertainty will promote confidence in the scheme and thereby local acceptance. The co-ownership scheme appears less problematic from a legal point of view although it is quite clear from the Danish experiences that the legal design of such a scheme is crucial, eg defining the group of potential co-owners. A similar observation can be made as regards the community benefit scheme that the legal framework should contribute to establishing certainty and transparency in such schemes.

From a political perspective the schemes have, however, been regarded as successful. Since the Renewable Energy Act and the specific schemes to promote public acceptance came into force in 2008, the onshore wind power capacity has – taking the size of Denmark into consideration – grown significantly every year.[64] It is however difficult to assess whether the growth

[63] Energinet.dk has been instructed by the Minister for Climate, Energy and Building to carry out the EIA, see Ministerial Order of 4 February 2013.

[64] The onshore wind power capacity was 2821 MW in 2009 as opposed to 3081 MW in 2011 and 3241 MW in 2012, see *Energy Statistics 2009* (Danish Energy Agency 2010) 9; *Energy Statistics 2011* (Danish Energy Agency 2012) 9 and *Energy Statistics 2012* (Danish Energy Agengy 2013) 9. At the same time the total number of wind turbines has decreased, underlining the trend of fewer but larger turbines. Thus, there were 1240 fewer turbines in 2012 than in 2000. see *Energy Statistics 2012* (Danish Energy Agency 2013) 10.

in wind power generation from 21.9 per cent of the domestic electricity supply in 2010 to 33.2 per cent in 2013 is linked to the schemes or whether the development has been spurred by attractive support schemes. There have so far been no comprehensive studies of this and the objection could be made that there is no documentation that the schemes actually have an effect on local acceptance. What can be seen – when leaving out of account the positive numbers – is that the local opposition, also in Denmark, continues to rise despite the special schemes that are in place and the interest groups opposing the development of wind energy have not only increased in number, they have also become stronger and adopted a more professional attitude. Consequently, there is a persistent need to make evaluations of the current schemes, and on this basis consider further adjustments or even new instruments. Such instruments could perhaps involve new ownership designs, such as local partnerships, citizen or consumer driven wind energy projects or wind farms owned by the municipalities.